STATEMENT OF
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BEFORE THE
HOUSE COMMITTEE ON RESOURCES
SUBCOMMITTEE ON ENERGY AND MINERAL RESOURCES
ON
THE NATIONAL GEOLOGIC MAPPING REAUTHORIZATION ACT OF 2004

JUNE 24, 2004

Madam Chair, I am pleased to be here today to express the Administration's views on H.R. 4010, a bill that would reauthorize the National Geologic Mapping Act of 1992. I had the privilege to appear before this committee in 1996 and 1999, when this Act was up for previous reauthorizations, and I am pleased to be here with you today. The Administration supports the reauthorization, but is concerned that the funding level authorized is not consistent with current appropriations or the President's 2005 budget request. Any additional funding for the National Cooperative Geologic Mapping program will have to compete with other priorities

This year marks a significant milestone in the history of the U.S. Geological Survey (USGS). On March 3, 2004, we celebrated the 125th anniversary of the creation of the USGS by the Organic Act enacted by the 45th Congress. In this anniversary year, we will celebrate the traditions that have shaped us and the mission that has guided us. We will celebrate the science that has impacted every facet of our work and the people who have made that science great. Finally, we celebrate the pivotal technology that will lead us into the future.

Throughout USGS history, geologic mapping has been one of our core capabilities. For state geological surveys, some founded even earlier than the USGS, geologic mapping has been an integral part of their history as well. A map is the best and most understandable way of portraying a great variety of geologic information. The diversity of information produced by a geological map includes: the distribution of mineral, energy and ground water resources; presently active faults whose movements may cause devastating earthquakes; and the distribution of surficial deposits that form the substrate for wetlands and other ecologically diverse settings. Equally important, as my statement notes, such mapping has yielded dividends far beyond its original intended goals.

When the 102nd Congress passed the National Geologic Mapping Act, it recognized that the USGS and the State geological surveys needed a coordinated program to prioritize the geologic mapping requirements of the Nation, and to increase the production of geologic maps. Geologic mapping has always been, and continues to be, a labor intensive exercise that involves field work to collect information; laboratory work to better understand the composition, properties and age of the materials collected; and the use of remote sensing to better extrapolate what has been learned in one location to a larger area. All of these aspects of geologic mapping cost money and require skilled practitioners. It becomes critically important for the USGS and the fifty State geological surveys to husband and leverage their resources. I can confidently tell you today that the National Cooperative Geologic Mapping Program has been extremely effective over the past 12 years doing exactly that. I would like to share some milestones of progress with you.

During the 12 years since passage of the Act, the USGS and the State geological surveys have produced well over 7,500 new geologic maps. In 2003 alone, over 450 geologic maps and reports were published.

Data in these maps cover a combined area of 125,000 square miles. The high priority areas selected to map were determined by stakeholder groups, land management agencies, and state mapping advisory committees.

During the last 12 years geologic maps have been completed in National Parks, National Forests, and lands managed by BLM and other land-management agencies. To give one timely example, geologic maps of all four major National Forests in southern California were completed in the past year. These maps were put to good use by the Burned Area Emergency Response teams (BAER) that responded to the fires that devastated large areas between Los Angeles and San Diego. They are continuing to be used during the winter rainy season to predict where major debris flows, and or mud slides, might endanger the local communities.

In 1993, the first year after initial passage of the Act, 34 state geological surveys and the USGS participated in this program to produce new geologic maps. In 2004 the number of State geological surveys participating has grown to 47. In that first year, $1.2M was distributed to the state surveys. Since 2001 over $6.5M in federal funds has been matched annually by state survey dollars. Cumulatively, over the 12 years of the program, approximately $50M has been distributed to 48 states, and these federal dollars were matched by $50M state dollars.

In 1995 the education component of the program, EDMAP, was implemented to train the next generation of geologic mappers. This training component fills a gap generally not addressed through National Science Foundation grants and other mechanisms. In the first year of the program, fewer than 40 students received funds to do field work and learn how to construct a geologic map. Currently, over 550 university students from 120 universities across the Nation have received training. Initially, EDMAP only supported graduate students. In 2000, the decision was made to expand support to undergraduate students in the hope that this would positively influence their decision to continue in the Earth Sciences. We are presently in the process of surveying all former EDMAP recipients. I can report, from the information received to date, that this training program has been successful. Of those surveyed candidates that have responded, 100% of the Masters and Ph.D. candidates and 82% of the B.S. candidates have all continued in geoscience. These figures are above the national averages and attest to the strength of EDMAP.

In 1999 two economists from the Illinois State Geological Survey teamed up with the Kentucky Geological Survey to undertake a rigorous analysis of the economic benefits of detailed geologic mapping to Kentucky. Two conclusions from this study are particularly worth mentioning. First, the total value of the geologic mapping program, at the minimum, is at least 25 times the cost of the program. Second, even though the bedrock geologic maps produced in Kentucky were originally created primarily for the coal industry, during the past 20 years these maps have been used by a wide array of users for everything from exploring for groundwater resources to planning cities to finding minerals.

Currently, USGS is in close coordination and agreement with the Association of American State Geologists (AASG) on this reauthorization bill and on associated geologic mapping issues. During the past year we have met to discuss the Act (PL-106-148) frequently, and while we recommend a few changes which I will discuss in a moment, we feel that the National Geologic Mapping Act continues to serve the Nation very well and needs little revision. The Act was also reviewed by the Federal Advisory Committee to the National Cooperative Geologic Mapping Program last month, and my comments today incorporate their conclusions as well.

The principal changes in this reauthorization bill are: First, an increase from 48% to 50% of new funds, if appropriated, that will be made available for matching-funds grants to State geological surveys, second, an increase from 2% to 4% of new funds for matching-funds grants to Universities to train the next generation of geologic mappers, and third, keeping future authorization levels equal to the 2005 level in the present Act. These changes taken together will help ensure that all three parts of this critical program—the federal, the state, and the university components—will have the potential to respond to the growing national need for geologic maps and the information they provide.

With the development of digital mapping technology and the Internet, geologic maps have become the most effective means of providing decision-makers and their geotechnical consultants with information that they need. All geologic maps being produced today under the auspices of the National Cooperative Geologic Mapping Program are digital, and each year more and more of these maps are being provided on the Internet. However, due to the labor intensive nature of producing geologic maps, a large percentage of the Nation, as noted in H.R. 4010, has yet to be mapped. We are encouraged by this legislation to continue in

this critical effort. With the development of digital mapping technology, geologic mapping is experiencing a renaissance in its use and applicability. We anticipate increased demand for digital geologic maps in the future. During the past 12 years the USGS and the state geological surveys have worked together to implement the National Geologic Map Database, as called for in the Act. While this database provides a variety of tools and services, I would like to highlight just one -- a catalog that provides information on almost every geologic map ever produced in the United States, and how anyone can obtain copies of the maps. This invaluable information spans 60,000 products.

Several weeks ago the American Geological Institute (AGI) published a new booklet entitled Meeting Challenges with Geologic Maps. The USGS, the Association of American State Geologists, the National Park Service, and the Geological Society of America worked with AGI to produce this educational publication. We have provided copies of this publication to the Subcommittee, and hope that you take the time to look through it. It provides many excellent examples of how geologic maps are a public good and provide benefit to the Nation. This would not be happening without the National Geologic Mapping Act.

Madam Chair, in concluding my remarks, I would like to state that the National Geologic Mapping Act of 1992, and its subsequent reauthorizations, have been instrumental in helping focus attention on the Nation's need for a new generation of high-quality geologic maps. The Administration supports the reauthorization, but is concerned that the funding level authorized is not consistent with current appropriations or the President's 2005 budget request. Any additional funding for the National Cooperative Geologic mapping program will have to compete with other priorities.

Thank you, Madam Chair, for the opportunity to express the views of the Administration on the National Geologic Mapping Act. I would be happy to respond to any questions you may have.